

## ■ Features

- **Global certificates**
- Universal AC input / Full range
- 3 pole AC inlet IEC320-C14, Class I power unit
- No load power consumption < 0.075W
- **Energy efficiency Level VI**
- Comply with EISA 2007/DoE, NRCAN, Korea K-MEPS, AU/NZ MEPS, EU ErP and CoC Version 5
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Fully enclosed plastic case
- Pass LPS
- -30~+70°C wide range working temperature
- LED indicator for power on
- 3 years warranty

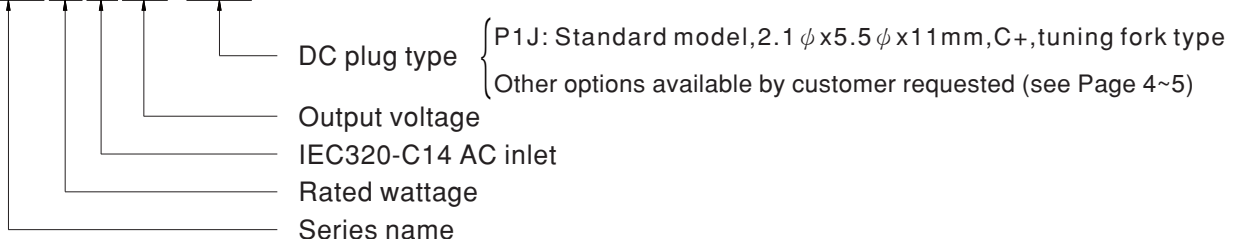
## ■ Description

GST60A is a highly reliable, 60W desktop style single-output green adaptor series. This product is a class I power unit (with FG), equipped with a standard IEC320-C14 AC inlet and adopting the input range from 90VAC to 264VAC. The entire series supplies different models with output voltages ranging between 5VDC and 48VDC that can satisfy the demands for various types of consumer electronic devices.

With the efficiency up to 92% and the extremely low no-load power consumption below 0.075W, GST60A is compliant with USA EISA 2007/DoE, Canada NRCAN, Australia and New Zealand MEPS, Korea K-MEPS, EU ErP and Code of Conduct (CoC) Version 5. The supreme feature allows the adaptor to save the energy when it is either under the operating mode or the standby mode. The entire series utilizes the 94V-0 flame retardant plastic case. GST60A is certified for the international safety regulations.

## ■ Model Encoding

**GST 60 A 05 -P1J**



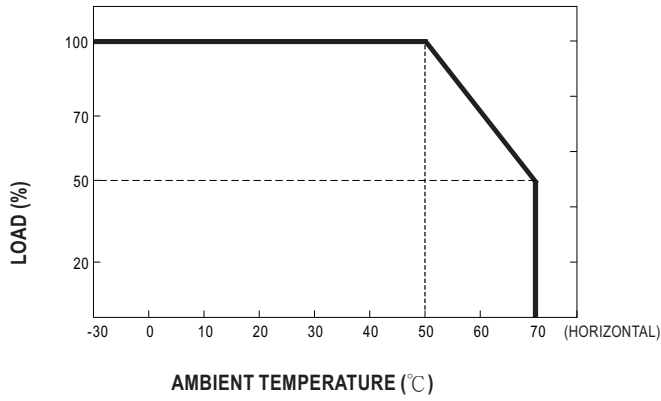
## ■ Applications

- Consumer electronic devices
- Telecommunication devices
- Office facilities
- Industrial equipments

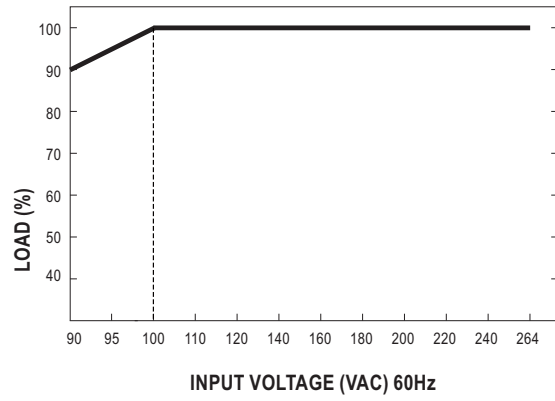
**SPECIFICATION**

ORDER NO.	GST60A05-P1J	GST60A07-P1J	GST60A09-P1J	GST60A12-P1J	GST60A15-P1J	GST60A18-P1J	GST60A24-P1J	GST60A48-P1J			
<b>OUTPUT</b>	<b>SAFETY MODEL NO.</b>	GST60A05	GST60A07	GST60A09	GST60A12	GST60A15	GST60A18	GST60A24	GST60A48		
	<b>DC VOLTAGE</b> <small>Note.2</small>	5V	7.5V	9V	12V	15V	18V	24V	48V		
	<b>RATED CURRENT</b>	6A	6A	6A	5A	4A	3.33A	2.5A	1.25A		
	<b>CURRENT RANGE</b>	0 ~ 6A	0 ~ 6A	0 ~ 6A	0 ~ 5A	0 ~ 4A	0 ~ 3.33A	0 ~ 2.5A	0 ~ 1.25A		
	<b>RATED POWER (max.)</b>	30W	45W	54W	60W	60W	60W	60W	60W		
	<b>RIPPLE &amp; NOISE (max.)</b> <small>Note.3</small>	120mVp-p	120mVp-p	120mVp-p	120mVp-p	120mVp-p	150mVp-p	150mVp-p	200mVp-p		
	<b>VOLTAGE TOLERANCE</b> <small>Note.4</small>	±5.0%	±5.0%	±5.0%	±3.0%	±3.0%	±3.0%	±3.0%	±2.5%		
	<b>LINE REGULATION</b> <small>Note.5</small>	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%		
	<b>LOAD REGULATION</b>	±5.0%	±5.0%	±5.0%	±3.0%	±3.0%	±3.0%	±3.0%	±2.5%		
	<b>SETUP, RISE TIME</b> <small>Note.6</small>	1000ms, 50ms / 230VAC      1000ms, 50ms / 115VAC at full load									
<b>HOLD UP TIME (Typ.)</b>	50ms / 230VAC      15ms / 115VAC at full load										
<b>INPUT</b>	<b>VOLTAGE RANGE</b> <small>Note.7</small>	90 ~ 264VAC    135 ~ 370VDC									
	<b>FREQUENCY RANGE</b>	47 ~ 63Hz									
	<b>EFFICIENCY (Typ.)</b>	85.5%	88.5%	89%	89.5%	89.5%	89.5%	90.5%	92%		
	<b>AC CURRENT (Typ.)</b>	1.4A / 115VAC    1A / 230VAC									
	<b>INRUSH CURRENT (max.)</b>	Cold start    35A / 115AC    65A / 230VAC									
<b>LEAKAGE CURRENT(max.)</b>	0.75mA / 240VAC										
<b>PROTECTION</b>	<b>OVERLOAD</b>	105 ~ 150% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed									
	<b>OVER VOLTAGE</b>	5.2 ~ 6.8V	7.8 ~ 10.2V	9.4 ~ 12.2V	12.6 ~ 16.2V	15.7 ~ 20.3V	18.9 ~ 24.3V	25.2 ~ 32.4V	50.4 ~ 64.8V		
	<b>OVER TEMPERATURE</b>	Shut down o/p voltage, re-power on to recover Protection type : Shut down o/p voltage, re-power on to recover									
<b>ENVIRONMENT</b>	<b>WORKING TEMP.</b>	-30 ~ +70°C (Refer to "Derating Curve")									
	<b>WORKING HUMIDITY</b>	20% ~ 90% RH non-condensing									
	<b>STORAGE TEMP., HUMIDITY</b>	-40 ~ +85°C, 10 ~ 95% RH non-condensing									
	<b>TEMP. COEFFICIENT</b>	±0.03% / °C (0 ~ 50°C)									
	<b>VIBRATION</b>	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes									
<b>SAFETY &amp; EMC (Note. 9)</b>	<b>SAFETY STANDARDS</b> <small>Note. 8</small>	UL60950-1, CSA C22.2, TUV EN60950-1, BSMI CNS14336, CCC GB4943, PSE J60950-1, AS/NZS 60950.1, BIS IS13252, KC K60950-1, EAC TP TC 004 approved; SIRIM MS IEC60950-1 (optional) approved									
	<b>WITHSTAND VOLTAGE</b>	I/P-O/P:3KVAC    I/P-FG:2KVAC    O/P-FG:0.5KVAC									
	<b>ISOLATION RESISTANCE</b>	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH									
	<b>EMC EMISSION</b>	<b>Parameter</b>	<b>Standard</b>						<b>Test Level / Note</b>		
		Conducted emission	EN55032(CISPR32), FCC PART 15 / CISPR22 CAN ICES-3(B)/NMB-3(B), CNS13438, GB17625.1 EAC TP TC 020, MSIP KN32						Class B		
		Radiated emission	EN55032(CISPR32), FCC PART 15 / CISPR22 CAN ICES-3(B)/NMB-3(B), CNS13438, GB17625.1 EAC TP TC 020, MSIP KN32						Class B		
		Harmonic current	EN61000-3-2, GB9254						Class A		
	Voltage flicker	EN61000-3-3						-----			
	<b>EMC IMMUNITY</b>	<b>Parameter</b>	<b>Standard</b>						<b>Test Level / Note</b>		
		ESD	EN61000-4-2						Level 4, 15KV air; Level 4, 8KV contact		
RF field susceptibility		EN61000-4-3						Level 2, 3V/m			
EFT bursts		EN61000-4-4						Level 2, 1KV			
Surge susceptibility		EN61000-4-5						Level 3, 1KV/Line-Line, 2KV/Line-FG			
Conducted susceptibility		EN61000-4-6						Level 2, 3V			
Magnetic field immunity		EN61000-4-8						Level 2, 3A/m			
Voltage dips, interruption	EN61000-4-11						>95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods				
<b>OTHERS</b>	<b>MTBF</b>	709.7K hrs min. MIL-HDBK-217F(25°C)									
	<b>DIMENSION</b>	125*50*31.5mm (L*W*H)									
	<b>PACKING</b>	0.305Kg; 40pcs/13.02Kg/1.05CUFT									
<b>CONNECTOR</b>	<b>PLUG</b>	See page 4-5 ; Other type available by customer requested									
	<b>CABLE</b>	See page 4-5 ; Other type available by customer requested									
<b>NOTE</b>	<ol style="list-style-type: none"> <li>All parameters are specified at 230VAC input, rated load, 25°C 70% RH ambient.</li> <li>DC voltage: The output voltage set at point measure by plug terminal &amp; 50% load.</li> <li>Ripple &amp; noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1µf &amp; 47µf capacitor.</li> <li>Tolerance: includes set up tolerance, line regulation, load regulation.</li> <li>Line regulation is measured from low line to high line at rated load.</li> <li>Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time.</li> <li>Derating may be needed under low input voltages. Please check the derating curve for more details.</li> <li>The demand for Malaysia safety is processed with the order no. GST60A □ -SIRIM by request. Please contact MEAN WELL for details.</li> <li>The power supply is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</li> </ol>										

■ Derating Curve

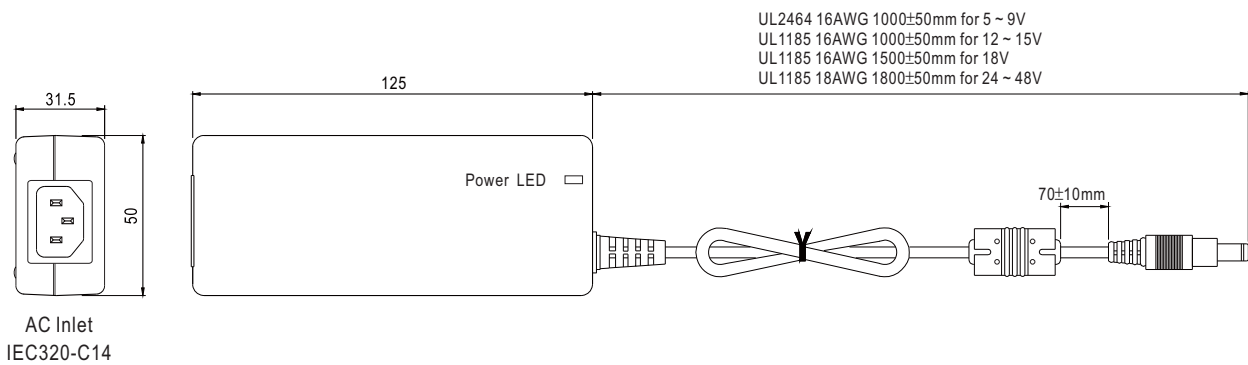


■ Static Characteristics



■ Mechanical Specification

Case No. GS60A Unit:mm



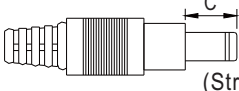
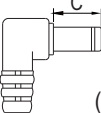


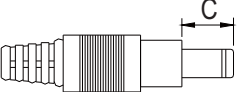
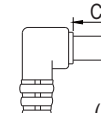


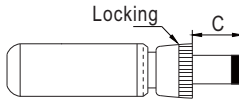

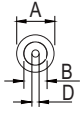
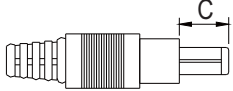

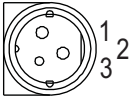
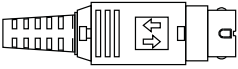



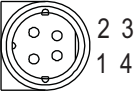
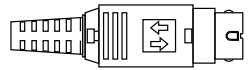







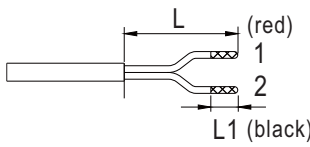
■ DC output plug

◎ Standard plug: P1J

P1J	Pin Assignment
	 C <sup>+</sup>
	Outside  Inside -V not connected to AC FG

© Optional DC plug:

Tuning Fork Style		Type No.	A	B	C	
   <p>(Straight)</p>  <p>(Right-angled)</p>	P1I	5.5	2.1	9.5		
	P1L	5.5	2.5	9.5		
	P1M	5.5	2.5	11.0		
	P1IR	5.5	2.1	9.5		
	P1JR	5.5	2.1	11.0		
	P1LR	5.5	2.5	9.5		
	P1MR	5.5	2.5	11.0		
Barrel Style		Type No.	A	B	C	
   <p>(Straight)</p>  <p>(Right-angled)</p>	P2I	5.5	2.1	9.5		
	P2J	5.5	2.1	11.0		
	P2L	5.5	2.5	9.5		
	P2M	5.5	2.5	11.0		
	P2IR	5.5	2.1	9.5		
	P2JR	5.5	2.1	11.0		
	P2LR	5.5	2.5	9.5		
P2MR	5.5	2.5	11.0			
Lock Style		Type No.	A	B	C	
   <p>Locking</p> <p>SWITCHCRAFT original or equivalent</p>	P2S(S761K)	5.53	2.03	12.06		
	P2K(761K)	5.53	2.54	12.06		
	P2C(S760K)	5.53	2.03	9.52		
	P2D(760K)	5.53	2.54	9.52		
Center Pin Style		Type No.	A	B	C	D
   <p>EIAJ equivalent</p>	P4A	5.5	3.4	11.0	1.0	
	P4B	6.5	4.4	11.0	1.4	
	P4C	7.4	5.1	11.0	0.6	
Min. DIN 3 Pin with Lock (male)		Type No.	Pin Assignment			
   <p>KYCON KPPX-3P equivalent</p>		PIN No.	Output			
	R6B	1	+Vo			
		2	-Vo			
		3	+Vo			

Min. DIN 4 Pin with Lock (male)	Type No.	Pin Assignment	
		PIN No.	Output
   <p>KYCON KPPX-4P equivalent</p>	R7B	1	+Vo
		2	-Vo
		3	-Vo
		4	+Vo
Min. DIN 4 Pin with Lock (female)	Type No.	Pin Assignment	
   <p>KYCON KPJX-CM-4S equivalent</p>	R7BF	1	+Vo
		2	-Vo
		3	-Vo
		4	+Vo
DIN 5 Pin (male)	Type No.	Pin Assignment	
  	R1B	1	-Vo
		2	-Vo
		3	+Vo
		4	-Vo
		5	+Vo
Stripped and tinned leads	Type No.	Pin Assignment	
  <p>Length of Land L1 by request (MW's standard length, L: <u>25</u> mm, L1: <u>5</u> mm)</p>	by customer	1	+Vo
		2	-Vo

■ **Installation Manual**

Please refer to : <http://www.meanwell.com/manual.html>